of readily observable task specialization by major workers and their low numerical frequency suggest the beginnings of polymorphism, the presence of a relic caste, or an optimal caste ratio for the relatively small *A. simoni* colonies.

The pattern of age polyethism in *A. simoni* appears to represent an incipient phase of division of labor in ants. Young workers are to a limited extent specialists at queen-related and brood care tasks, but also perform tasks such as foraging that are characteristic of the repertories of older workers (Oster and Wilson, 1978). Callow and mature minor worker labor profiles overlap considerably, especially in regard to nest maintenance and foraging-related tasks. This pattern contrasts with the lack of age polyethism shown in other primitive species such as *Amblyopone pallipes* (Traniello, 1978), *Nothomyrmecia* (Holldobler, personal communication), and *Myrmecia* (Haskins and Haskins, 1950). The generalized behavioral repertory of callow minor workers may be due to the fact that in *A. simoni* larvae are directly provisioned with insect prey; therefore, the typically unrelated tasks of foraging and larval provisoning are part of the same behavioral sequence. However, the commencement of foraging by callows during their first few days of adult life seems to be a truly ancestral trait, especially in view of the small number of callow workers in a colony. A more detailed analysis of age polyethism in *A. simoni* is in preparation.

Social behavior in *A. simoni* is basically quite similar to descendant dolichoderine species, and is very different from other primitive species with small colonies such as *Amblyopone* (Haskins, 1928; Traniello, 1982), *Myrmecia* (Haskins and Haskins, 1950) and *Nothomyrmecia* (Holldobler and Taylor, 1983). For example, trophallaxis is quite common, and trail communication, movement of workers between nests, rapid, chemically-organized nest emigration, and group retrieval of prey are prominent features of the foraging behavior of *A. simoni* in the field and in the laboratory. The pattern of nest emigration is very similar to that of ants of the higher subfamilies in which after an initial group of approximately 20-30 nestmates are recruited to the new nest site, the number of nestmates arriving at the new nest increases by social carrying (Jayasuriya, 1980). In *A. simoni*, adult transport begins with a brief interchange of invitation signals inducing tonic immobility in the individual to be carried. A worker is then grasped by the mandibles and carried over the transporter's head. The social transport posture in *A. simoni*, therefore, is clearly more advanced than in other primitive species and is most similar to that of the higher ponerines and myrmicines. Social carrying has not been observed in the Dolichoderinae (Wilson, 1971).

In apparently polygynous colonies of *A. simoni* no aggression or dominance relationships occur between queens, as is true in *Nothomyr-*